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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,778

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Jerry Waikit Tsui

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PATENTS ON DEMAND, P.A. IBM-RSW

4581 WESTON ROAD

SUITE 345

WESTON, FL 33331

EXAMINER

RANKINS, WILLIAM E

ART UNIT

PAPER NUMBER

3694

NOTIFICATION DATE

DELIVERY MODE

08/01/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/674,778

Applicant(s)

TSUI ET AL.

Examiner

WILLIAM RANKINS

Art Unit

3694

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 2, 7, 12 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1-20 are pending in this application. Claims 2, 7, 12 and 16-20 are amended.

Response to Arguments

1. Applicant's arguments, see pgs. 11-12, filed 05/10/2011 with respect to claims 17-20 have been fully considered and are persuasive. The 112 rejection of 05/27/2010 has been withdrawn. The rejection is withdrawn because the claims have been amended. However, as the claim limitations which gave rise to the rejection have been canceled in claims 17-20 but added to claims 2, 7, 12 and 16 a new rejection to those claims is provided below. The applicant has provided an argument against the 112 2nd rejection of the claim language comprising references which show that the term "well-defined" is a term of art with regard to web services. The examiner asserts that although it may be a term of art the term still does not provide one of ordinary skill in the art with specific metes and bounds to define the claim. What is specifically meant by "well-defined" has not been established.

2. Applicant's arguments, see pgs. 12-24, filed 05/10/2011 with respect to claims 1-20 have been fully considered but are not persuasive. The 103 rejections of 05/27/2010 are maintained.

Claim Objections

Claims 2, 7, 12, 16 and its dependents are objected to because of the following informalities: The word functionally should be replaced by functionality. Appropriate correction is required. Claim 1 is objected to for omitting the word "be" after "configured to" on line 2.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claim(s) 1-5 is/are rejected under 35 U.S.C. 101 because the claimed invention is not directed to one of the four statutory categories of invention. Non-limiting example of a claim not directed to one of the statutory categories are transitory forms of signal transmission such as a propagating electrical or electromagnetic signal per se or a claim to a computer readable medium that can be a compact disc or a carrier wave. Amending the claim to a "non-transitory" computer-readable medium or computer-readable "storage" medium would overcome this rejection. A software system is interpreted by the examiner as a computer product claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 2, 7, 12, 16 and its dependents rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "well-defined" in claims 2, 7, 12 and 16 is a relative term which renders the claim indefinite. The term "well-defined" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Additionally, the phrase "specific functionally" is also relative. Neither term nor phrase establishes the metes and bounds of the claims and leaves the claims open to interpretation and individual definition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelting (2004/0030740) in view of Bowman-Amuah (6,640,249) and further in view of Nguyen (2003/0172145).

As per claim 1:

Stelting discloses:

A software system digitally encoded in at least one machine readable medium configured to usable by at least one machine for use in providing a web service interface (Para. 0023) for a billing service (Fig. 8 and Para. 0043), wherein a plurality of billing functions (fig. 8, object 742) is provided by said billing service to computing applications residing on one or more computing devices in a distributed network (fig. 8), the software system comprising:

a. a web service interface (Fig. 8, object 742), which is implemented within software stored on a tangible computer readable medium (Para. 0023), defined for a billing service (Fig. 8, Object 746), said interface being adapted for coupling to a billing engine, said billing engine residing on a computing device in said distributed network and being adapted to perform said plurality of billing functions (Fig. 8, object 762), said interface comprises a plurality of application programming interfaces, each of said application programming interfaces being associated with one of said billing functions (Fig. 8, object 742 comprising a plurality) and being implemented such that the billing

function associated therewith is performed after a web service invocation that commands performance of said billing function (previously mapped) is received by said web service (Para. 0040); and

said web service interface being used to provide said billing service as a web service that is configured to be invoked by said computing applications in said distributed network (fig. 8 and Para's. 0040, 0043).

Stelting does not disclose:

b. a plurality of object classes which are implemented within software stored on a tangible computer readable medium, each of said object classes defining objects for storing data utilized by said billing engine and for communicating said data to said billing engine through at least one interface, said interface being used to provide said billing in a network.

However, Bowman-Amuah discloses:

Object-oriented programming as a process of developing computer software using objects; an object is a software package that contains both data and a collection of related structures and procedures; each object is responsible for a particular task (Col. 10, lines 44-55); an object is a single instance of the class of objects (col. 10, line 67 - Col. 11, line 1); the benefits of object classes where objects and their corresponding classes break down complex programming problems into smaller, simpler problems; the organization of data into small, independent objects that can communicate with each other; subclassing and inheritance make it possible to extend and modify objects through deriving new kinds of objects from the standard classes

available, thus new capabilities are created without having to start from scratch. Polymorphism and multiple inheritance make it possible to for different programmers to mix and match characteristics of many different classes and create specialized objects that can still work with related objects in predictable ways (Col. 12, lines 37-59).

Bowman-Amuah also discloses Web Services that enable organizations to deploy Netcentric applications over the internet (Col. 106, lines 59-62); component technologies are a natural evolution from object-oriented systems providing a more mature way of packaging reusable software units (col. 123, lines 34-37); users are asking for assistance to deploy netcentric ecommerce applications based on components (Col. 123, lines 54-55); business components represent real-world concepts in the business domain including billing (Col. 126, lines 32-37).

Nguyen discloses business relying on asp applications such as a billing system (Para. 0017). The billing system may facilitate, new subscriber registration, customer care, user provisioning and bill presentment (Para. 0568 (plurality of billing functions)).

One of ordinary skill in the art would have been motivated to combine Stelting, Bowman-Amuah and Nguyen according to KSR Exemplary Rationale E: Obvious to Try – Choosing from a Finite Number of Identified, Predictable Solutions, with a Reasonable Expectation of Success.

According to KSR rationale E the examiner finds that there had been a recognized problem or need in the art, as disclosed by Nguyen, to leverage professional expertise from outsourcing (Para. 0017); that there had been a finite number of identified predictable solutions (outsourcing functions versus maintaining them in

house); and that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (Stelting and Bowman-Amuah provide detailed guidance for providing the solutions).

As per claim 2;

Stelting discloses:

The software system as claimed in claim 1, wherein the Web service is a well-defined, self-contained component that encapsulates specific functionality (Para. 0009), which is made available to other computing applications over a network (Para. 0013) by web service invocation using a Simple Object Access Protocol (SOAP) (Fig. 7).

Stelting does not disclose:

The software system as claimed in claim 1, wherein said interface is extendable to provide said computing application with additional billing functions, and said billing engine is adapted to perform said additional billing functions.

However, Bowman-Amuah discloses extensibility of architecture where it can be predicted whether an architecture will fulfill current and future requirements (Col. 20, lines 64-67).

The examiner asserts that Bowman-Amuah implies that a given architecture be adaptable to future needs.

One of ordinary skill in the art would have been motivated to combine Stelting, Bowman-Amuah and Nguyen according to KSR Exemplary Rationale for Applying a

Known Technique to a Known Device (Method or Product) Ready for Improvement to Yield Predictable Results.

The examiner finds that the prior art of Stelting contained a base system upon which the claimed invention can be seen as an improvement and that the prior art of Bowman-Amuah contained a known technique that is applicable to the base system and that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system.

As per claim 3;

Stelting does not disclose:

The software system of claim 1, wherein said billing service is a billing account service, and wherein the web service interface defined for said billing account service comprises application programming interfaces associated with at least three of the following functions:

1. creating billing accounts
2. deleting billing accounts
3. creating records of billing events in a billing account
4. setting the status of a billing account
5. obtaining the status of a billing account
6. obtaining an invoice for a billing account

However, Nguyen discloses a billing system facilitating new subscriber registration (creating a billing account) and bill presentment (creating records of billing

events, setting the status of a billing account, obtaining the status of a billing account and obtaining an invoice for a billing account).

One of ordinary skill in the art would have been motivated to combine Stelting, Bowman-Amuah and Nguyen according to KSR Exemplary Rationale for Applying a Known Technique to a Known Device (Method or Product) Ready for Improvement to Yield Predictable Results.

The examiner finds that the prior art of Stelting contained a base system upon which the claimed invention can be seen as an improvement and that the prior art of Bowman-Amuah contained a known technique that is applicable to the base system and that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system.

As per claim 4;

Stelting does not disclose:

The software system as claimed in claim 1, wherein said billing service is a rating service, and wherein the web service interface defined for said rating service comprises application programming interfaces associated with at least three of the following first billing functions:

- i. registering billable services;
- ii. obtaining a billing rate package for a billable service;
- iii. subscribing a billable service for a billing account;
- iv. unsubscribing a billable service for a billing account;

- v. obtaining subscribed billable service instances for a billing account; and
- vi. processing billing events.

However, Nguyen discloses a billing system facilitating new subscriber registration (registering billable services, subscribing a billable service for a billing account) and bill presentment (obtaining subscribed billable service instances for a billing account; and processing billing events).

One of ordinary skill in the art would have been motivated to combine Stelting, Bowman-Amuah and Nguyen according to KSR Exemplary Rationale for Applying a Known Technique to a Known Device (Method or Product) Ready for Improvement to Yield Predictable Results.

The examiner finds that the prior art of Stelting contained a base system upon which the claimed invention can be seen as an improvement and that the prior art of Bowman-Amuah contained a known technique that is applicable to the base system and that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system.

As per claim 5;

Stelting does not disclose:

The software system as claimed in claim 1, wherein said plurality of object classes define three or more of the following objects:

- i. Billing accounts
- ii. Billing events

- iii. Billing rate packages
- iv. Billable services
- v. Billing subscriptions; and
- vi. Billable service instances.

However, Bowman-Amuah discloses:

Object-oriented programming as a process of developing computer software using objects; an object is a software package that contains both data and a collection of related structures and procedures; each object is responsible for a particular task (Col. 10, lines 44-55); an object is a single instance of the class of objects (col. 10, line 67 - Col. 11, line 1); the benefits of object classes where objects and their corresponding classes break down complex programming problems into smaller, simpler problems; the organization of data into small, independent objects that can communicate with each other; subclassing and inheritance make it possible to extend and modify objects through deriving new kinds of objects from the standard classes available, thus new capabilities are created without having to start from scratch. Polymorphism and multiple inheritance make it possible to for different programmers to mix and match characteristics of many different classes and create specialized objects that can still work with related objects in predictable ways (Col. 12, lines 37-59).

Bowman-Amuah also discloses Web Services that enable organizations to deploy Netcentric applications over the internet (Col. 106, lines 59-62); component technologies are a natural evolution from object-oriented systems providing a more mature way of packaging reusable software units (col. 123, lines 34-37); users are

asking for assistance to deploy netcentric ecommerce applications based on components (Col. 123, lines 54-55); business components represent real-world concepts in the business domain including billing (Col. 126, lines 32-37).

The examiner asserts that the limitations of claim 5 are intended use and that, as such, the prior art need only disclose the capability of performing the intended use. In this case, Bowman-Amuah discloses the capability of using object-oriented programming to provide billing functions in a web services environment. The examiner asserts that Bowman-Amuah reasonably discloses that the object classes can be user defined for a number of applications such as those disclosed in Stelting and Nguyen (billing applications) where Nguyen is particularly aimed at an ISP where object classes of the type defined in claim 5 would be useful.

Claim(s) 6-10 are essentially similar to claim(s) 1-5 and are therefore rejected under the same rationale. The software on a computer readable medium aspect is disclosed by Stelting in Para. 0002.

Claim(s) 11-15 are essentially similar to claim(s) 6-10 and are therefore rejected under the same rationale. The interface of claim 5 is disclosed by Stelting in Para. 0006.

As per claim 18;
Stelting discloses:

The software system as claimed in claim 1, wherein the Web service interface is directly coupled to the billing engine (Fig. 8).

As per claim 19;

Stelting discloses:

The computer-readable medium as claimed in claim 6, wherein the Web service wherein the Web service interface is directly coupled to the billing engine (Fig. 8).

As per claim 20;

Stelting discloses:

The web service interface as claimed in claim 11, wherein the Web service wherein the Web service interface is directly coupled to the billing engine (Fig. 8).

3. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelting (2004/0030740) in view of Nguyen (2003/0172145) and further in view of Cameron (6,317,490).

As per claim 16;

Stelting discloses:

A method for providing a billing service comprising:
receiving a plurality of Web service invocations for a Web service interface,
wherein each Web service invocation commands performance of a billing function, said

billing function being performed by a billing engine hosted on a billing system, wherein said Web service invocation is digitally conveyed from a computing application executing on a computing device over a distributed network to the billing system, wherein said computing application provides at least one commercial service made available by a commercial service provider for a usage charge (Para's. 0023; clients communicate with service providers through the internet, Para. 0024; invoking web services, Para. 0043; billing services);

wherein the billing functions of said billing service are performed by a server-side billing engine, and wherein the Web service interface is a client side interface (Fig. 1), wherein the Web service is a well-defined, self-contained component that encapsulates specific functionality (Para. 0009), which is made available to other computing applications over a network (Para. 0013) by web service invocation using a Simple Object Access Protocol (SOAP) (Fig. 7).

Stelting does not disclose:

executing the billing function of the billing engine responsive to receiving each Web service invocation, wherein executing of the billing functions for different ones of the Web service invocations comprise actions causing the billing engine to:

create a billing account for a user of the commercial service;

delete a billing account for a user of the commercial service;

create a record of a billing event in a billing account corresponding to a user of the commercial service;

obtain the status of a billing account corresponding to a user of the commercial service; and

obtain an invoice for a billing account corresponding to a user of the commercial service.

However, Nguyen discloses businesses relying on asp applications such as a billing system (Para. 0017). The billing system may facilitate new subscriber registration (create a billing account), bill presentment (create a record of a billing event, obtain the status/invoice of a billing account) (Para. 0568).

Cameron discloses a billing interface with capabilities to delete user billing accounts (Col. 2, lines 43-49).

One of ordinary skill in the art would have been motivated to combine Stelting, Nguyen and Cameron by applying a known technique to a known device (method or product) ready for improvement to yield predictable results.

Accordingly, the examiner finds that Stelting contains a base device, method or product for accessing billing services as web services upon which the claimed invention can be seen as an improvement.

Nguyen and Cameron contain known techniques for billing account management that are applicable to the base device and one of ordinary skill in the art could have applied the known technique to yield predictable results.

As per claim 17;
Stelting discloses:

The method, as claimed in claim 16, wherein the Web service interface is directly coupled to the billing engine (Fig. 8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM RANKINS whose telephone number is (571)270-3465. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on 571-272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ William Rankins/
Primary Examiner, Art Unit 3694